Owner's Manual

Unmanaged DIN-Mountable Industrial 10/100/1000 Gigabit Ethernet Switches

Models: NGI-U05, NGI-U08, NGI-U16

Este manual está disponible en español en la página de Tripp Lite: tripplite.com

Ce manuel est disponible en français sur le site Web de Tripp Lite : tripplite.com

Русскоязычная версия настоящего руководства представлена на веб-сайте компании Tripp Lite по адресу: tripplite.com

Dieses Handbuch ist in deutscher Sprache auf der Tripp Lite-Website verfügbar: tripplite.com

WARRANTY REGISTRATION

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tripplite.com/warranty

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Package Contents

- NGI-U05, NGI-U08 or NGI-U16 10/100/1000 Ethernet Switch
- DIN Rail-Mounting Clip (Preinstalled)
- Wall-Mount Mask (Preinstalled on NGI-U05 Only)
- Owner's Manual

Product Features

- 5 (NGI-U05), 8 (NGI-U08) or 16 (NGI-U16) auto-negotiable 10/100/1000 Mbps RJ45 ports
- Supports 10/100/1000Base-T, Full Duplex and Auto MDI/MDI-X crossover function
- Rugged high-strength case
- Industrial temperature switch models support operating temperature range of -40°F to 167°F (-40°C to 75°C)
- Easy-to-read LEDs indicate connection and activity status for each port
- Meets the following IEEE standards:
  - IEEE 802.3 10Base-T
  - IEEE 802.3u 100Base-T
  - IEEE 802.3ab 1000Base-T
  - IEEE 802.3 Auto Negotiation
  - IEEE 802.3x Flow Control

Product Features

- Supports MAC address auto-learning and auto-aging
- NGI-U16 supports EIP/QoS/ Flow and Storm Control

  Note: *Contact tripplite.com/support for information on availability of enhanced functionality.*
- Preinstalled durable rail clip mounts firmly to any standard 35 mm DIN rail

  Note: *Only NGI-U05 is both DIN and wall mountable.*
- Simple plug-and-play installation and operation with no configuration required

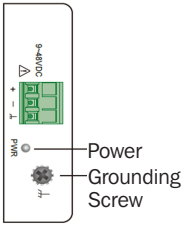
Optional Accessories

- N001-Series Cat5e 350 MHz Snagless UTP Cables
- N002-Series Cat5e 350 MHz UTP Ethernet Cables
- N200-Series Cat6 Gigabit Molded UTP Ethernet Cables
- N201-Series Cat6 Gigabit Snagless Molded UTP Ethernet Cables

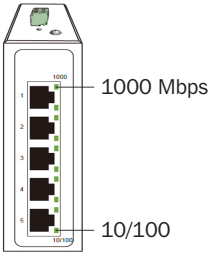
Product Overview

NGI-U05

5-Port Unmanaged Industrial Gigabit 10/100/1000 Ethernet Switch, Plug and play – Din and Wall Mountable



Top View

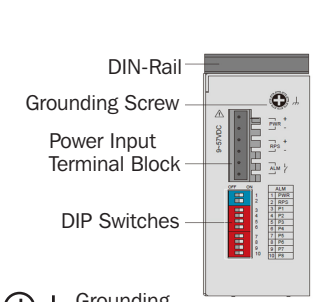


Front View

Side View

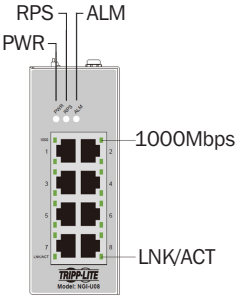
NGI-U08

8-Port Unmanaged Industrial Gigabit 10/100/1000 Ethernet Switch, Plug and play – DIN Mountable



Grounding Screw

Top View

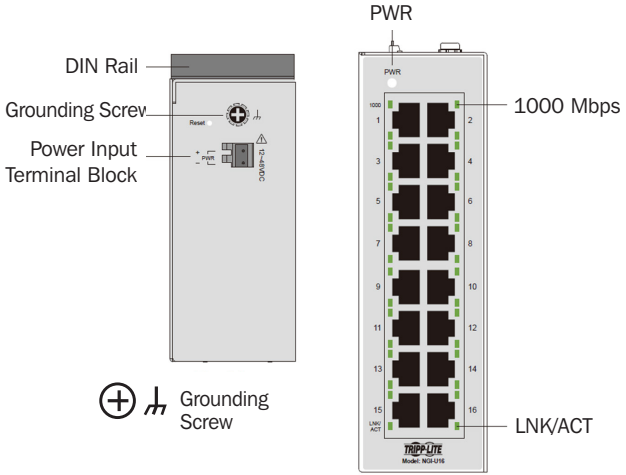


Front View

Product Overview

NGI-U16

16-Port Unmanaged Industrial Gigabit 10/100/1000 Ethernet Switch, Plug and Play, DIN Mountable



DIN-Rail Mounting/Dismounting Instructions

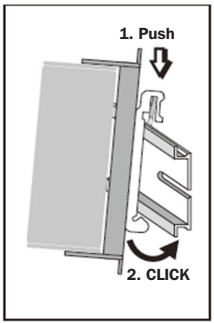
ATTENTION: Switch models NGI-U05, NGI-U08 and NGI-U16 are open-type devices and shall be DIN-rail mounted. Model NGI-U05 may be wall mounted (optional) in cabinet or enclosure. The ambient temperature should not exceed 167°F (75°C).

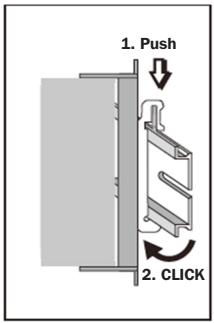
Mounting the Switch

Place the NGI-Series switch on the DIN rail from above using the slot. Push the front of the switch toward the mounting surface until it snaps into place with the sound of a click.

Dismounting the Switch

Press the switch from the top, then pull out the lower edge of the switch to remove it from the DIN rail.





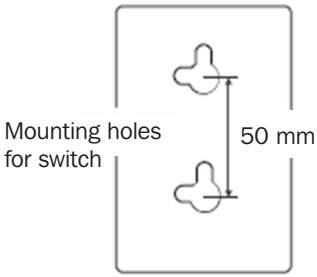
Mounting the Switch **Removing the Switch**

DIN Mounting/Dismounting Instructions

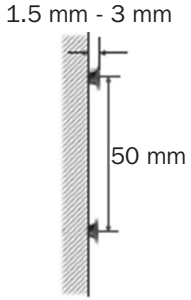
ATTENTION: A corrosion-free DIN mounting rail is advisable. When mounting the switch, be sure to allow enough space between devices to install the cabling and to ensure proper airflow.

Wall-Mounted Mask (NGI-U05 Only)

1. Mount the switch by using mounting holes on the wall at the appropriate places.



Mounting Holes Drawing of NGI-U05

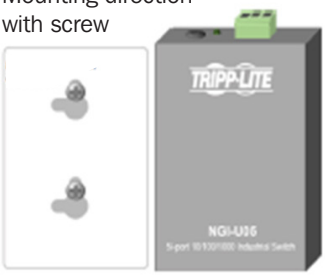


Screw Installation Distance

DIN Mounting/Dismounting Instructions

2. The switch can be wall mounted either vertically or horizontally.
   Note: *Horizontal mounting is not evaluated by UL.*

Mounting direction with screw



Straight Direction Installation

Mounting direction with screw

Horizontal Direction Installation
(Horizontal direction is not evaluated by UL)

Wiring Requirements

WARNING: Safety measures should be taken before connecting the power cable. Turn off the power before connecting modules or wires. The correct power supply voltage is listed on the product label. Check the voltage of your power source to make sure you are using the correct voltage. DO NOT use a voltage greater than what is specified on the product label. Calculate the maximum possible current in each power wire and common wire. Observe all electrical codes dictating the maximum current allowable for each wire size. If current exceeds the maximum rating, the wiring can overheat, causing serious damage to your equipment.

Please read and follow these guidelines:

- Use separate paths to route wiring for power and devices. If power wiring and device wiring paths must cross, make sure the wires are perpendicular at the intersection point.

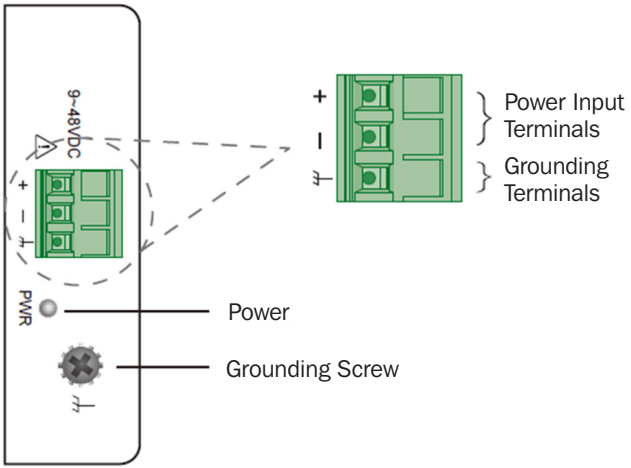
  Note: *Do not run signal or communications wiring and power wiring through the same wire conduit. To avoid interference, wires with different signal characteristics should be routed separately.*
- You can use the type of signal transmitted through a wire to determine which wires should be kept separate. Wiring that shares similar electrical characteristics can be bundled together.
- You should separate input wiring from output wiring.
- Be advised that you should label the wiring to all devices in the system.

Wiring Requirements

Wiring Power Input

NGI-U05 with 3-Pin Terminal Block

Check the polarity while connecting. Top view of the Terminal Block is shown in the figure below:



Wiring Requirements

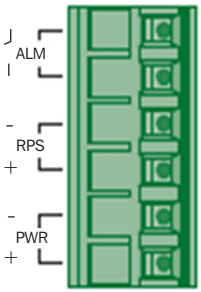
To insert power wire and connect the 9~48VDC at a maximum of 0.5A DC power to the power terminal block, follow these steps:

- Use a flat-head screwdriver to loosen the wire-clamp screws.
- Insert the negative/positive DC wires into the (- / +) terminals, respectively.
- Tighten the wire-clamp screws to prevent the wires from loosening.

ATTENTION: Use a power supply from 9~48VDC. The device power shall be supplied by LPS (Limited Power Source) circuit.

NGI-U08 with 6-Pin Terminal Block

Use “PWR” for the primary power input and “RPS” for the redundant power input.



Wiring Requirements

CAUTION:

- Use copper conductors only.
- Wiring cable temperature should support at least 220°F (105°C).
- Tighten the wire to a torque value of 5 lb.-in.
- The wire gauge for the terminal block should range between 12 and 24 AWG.

To insert power wire and connect the 9~VDC at a maximum of 1A DC power to the NGI-U08 power terminal block, follow these steps:

- Use a flat-head screwdriver to loosen the wire-clamp screws.
- Insert the negative/positive DC wires into the PWR-/PWR+ terminals, respectively.
- Tighten the wire-clamp screws to prevent the wires from loosening

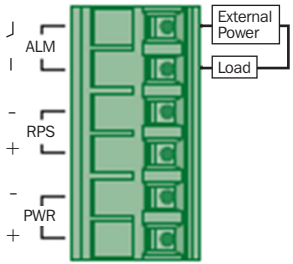
ATTENTION: Use a power supply from 9~57VDC for NGI-U08. The device power shall be supplied by LPS (Limited Power Source) circuit.

Wiring Requirements

Wiring the Relay Contact (ALM) – only for device with 6-pin terminal block

The NGI-U08 (device with 6-pin terminal block) has one set of relay alarm output. This relay contact uses two contacts of the terminal block on the NGI-U08 top panel.

The two contacts of the 6-pin terminal block connector are used to detect user-configured events. The two wires attached to the fault contacts form an open circuit when a user-configured event is triggered. If a user-configured event does not occur, the fault circuit remains closed.



Relay rating: 24V 1A

Wiring Requirements

DIP Switch Settings

The switch supports an “Alarm Relay Output” function. You can connect an alarm light or a buzzer. When events occur that enabled by the DIPs, the switch will operate the relay ON to enable the alarm light or a buzzer. The load can be an “alarm light” a “buzzer” or other equipment.

User configurable switches:

- PWR or RPS “DIP ON”: when there is a power loss, the switch will operate the “Relay ON.” If connecting only to single power and a power loss occurs, the switch system will shut down and will not operate the “Relay ON.”
- Port 1~ Port X “DIP ON”: when the port “Link is down,” the switch will operate the “Relay ON.” It can help to inform the link-down events that happened.
- It is not required to connect alarm equipment to the Alarm Relay output port. The switch has an ALARM LED indicator on the front panel.
- Default settings for the DIP switch are set to OFF positions.

Wiring Requirements

NGI-U08 DIP Switches

1 PWR
2 RPS

3 P1
4 P2
5 P3
6 P4

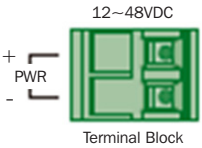
7 P5
8 P6
9 P7
10 P8

PWR	ON: Primary power alarm reporting is enabled
	OFF: Primary power alarm reporting is disabled
RPS	ON: Redundant power alarm reporting is enabled
	OFF: Redundant power alarm reporting is disabled
P1	ON: Port 1 link alarm reporting is enabled
	OFF: Port 1 link alarm reporting is disabled
P2	ON: Port 2 link alarm reporting is enabled
	OFF: Port 2 link alarm reporting is disabled
P3	ON: Port 3 link alarm reporting is enabled
	OFF: Port 3 link alarm reporting is disabled
P4	ON: Port 4 link alarm reporting is enabled
	OFF: Port 4 link alarm reporting is disabled
P5	ON: Port 5 link alarm reporting is enabled
	OFF: Port 5 link alarm reporting is disabled
P6	ON: Port 6 link alarm reporting is enabled
	OFF: Port 6 link alarm reporting is disabled
P7	ON: Port 7 link alarm reporting is enabled
	OFF: Port 7 link alarm reporting is disabled
P8	ON: Port 8 link alarm reporting is enabled
	OFF: Port 8 link alarm reporting is disabled

Wiring Requirements

NGI-U16 with 2-Pin Terminal Block

You can use “PWR” for power input. Top view of the Terminal Block is shown in the figure at right.



Terminal Block

CAUTION:

- Use copper conductors only.
- Wiring cable temperature should support at least 220°F (105°C).
- Tighten the wire to a torque value 4.5 lb.-in.
- The wire gauge for the terminal block should range between 12 and 24 AWG.

To insert power wire and connect the 12~48VDC at a maximum of 1.5A DC power to the power terminal block, follow these steps:

- Use a flat-head screwdriver to loosen the wire-clamp screws.
- Insert the negative/positive DC wires into the PWR-/PWR+ terminals, respectively.
- Tighten the wire-clamp screws to prevent the wires from loosening.

ATTENTION: Use a power supply from 12~48VDC. The device power shall be supplied by LPS (Limited Power Source) circuit.

Cabling

Connect one end of an Ethernet/RJ45 cable into the Ethernet port of the NGI-U05, NGI-U08 or NGI-U16. Connect the other end to a network device. Ports 1 through 5, 8 or 16 on the switch support Fast Ethernet, as well as Gigabit Ethernet (10/100/1000Base-T ports).

All the RJ45 ports on the NGI-U05 and NGI-U08 support auto-negotiation and Auto MDI/MDI-X to eliminate the need for crossover cabling.

Note: *Category 5e or above cable should be used.*

Grounding the NGI Series Switch Models

Grounding and wire routing help limit the effects of noise due to electromagnetic interference (EMI). Run the ground connection from the ground screw to the grounding surface prior to connecting devices.

ATTENTION: This product is intended to be mounted to a well-grounded mounting surface, such as a metal panel.

LED Indicators

NGI-U05		
PWR (Green)	Illuminated	Power On by terminal block PWR
	Off	Terminal block PWR failed or is not available
1000 (Green)	Illuminated	Link speed at 1000 Mbps
	Blinking	Data is transmitting/receiving
	Off	Link speed at 10/100 Mbps or link failed
10/100 (Green)	Illuminated	Copper port link-up 10/100 Mbps
	Blinking	Data is transmitting/receiving
	Off	Link speed at 1000 Mbps or link failed

LED Indicators

NGI-U08		
PWR (Green)	Illuminated	Power On by terminal block PWR or DC jack
	Off	Terminal block PWR/DC jack failed or is not available
RPS (Green)	Illuminated	Power on by terminal block RPS
	Off	Terminal block RPS failed or is unavailable
ALM (Red)	Illuminated	PWR/RPS failed or unavailable
	Off	No power or DIP function is disabled
1000M (Green)	Illuminated	Link speed at 1000 Mbps
	Off	Link speed at 10/100 Mbps
LNK/ACT (Green)	Illuminated	Copper port link-up 1000 Mbps
	Blinking	Data is transmitting/receiving
	Off	Port disconnected or link failed

LED Indicators

NGI-U16		
PWR (Green)	Illuminated	Power is supplied to switch
	Off	Power off or failed
1000 (Green)	Illuminated	Link speed at 1000 Mbps
	Off	Link speed at 10/100 Mbps
LNK/ACT (Green)	Illuminated	Ethernet link-up
	Blinking	Data is transmitting/receiving
	Off	Port disconnected or link failed

ATTENTION: This device complies with Part 15 of the FCC rules. Operation is subject to the following conditions:

1. **This device may not cause harmful interference.**
2. **This device must accept any interference received including interference that may cause undesired operation.**

ATTENTION: If the equipment is used in a manner not specified, the protection provided by the equipment may be impaired.

Specifications

Model	NGI-U05	NGI-U08	NGI-U16
Power			
Input Voltage	Single power input 9~48VDC/0.5A	Dual power inputs 9~57VDC/1A	Single power input 12~48VDC/1.5A
Connection	3-pin terminal block	6-pin terminal block	2-pin terminal block
Reverse Polarity Protection	Present	Present	Present
Power Consumption (System Only)	4W	5W	12W
Grounding Screw	Present	Present	Present
Interface			
RJ45	5 x 10/100/1000Base-T Supports auto-negotiation, Auto MDI/MDI-X, Full/Half Duplex and Flow Control	8 x 10/100/1000Base-T Supports auto-negotiation, Auto MDI/MDI-X, Full/Half Duplex and Flow Control	16 x 10/100/1000Base-T Supports auto-negotiation, Auto MDI/MDI-X, Full/Half Duplex and Flow Control
Fiber Ports	-	-	-
LED Indications	PWR (Green): for power 10/100 (Green): for ports 1 to 5 Ethernet speed 10/100 Mbps & data transmitting/ receiving 1000 (Green): for ports 1 to 5 Ethernet speed 1000 Mbps & data transmitting/ receiving	PWR (Green): for power by terminal block PWR RPS (Green): for power by terminal block RPS ALM (Red): for PWR & RPS fails and RJ45 Port link down 1000 (Green): for ports 1 to 8 Ethernet speed 1000 Mbps LNK/ACT (Green): for data transmitting / receiving	PWR (Green): for power 1000 (Green): for ports 1 to 16 Ethernet speed 1000 Mbps LNK/ACT (Green): for ports 1 to 16 data transmitting/ receiving

Specifications

Model	NGI-U05	NGI-U08	NGI-U16
Alarm Relay Output	-	1 Alarm relay output for power loss and port link down	-
Environmental			
Operating Temperature	-40°F to 167°F (-40°C to 75°C)	-40°F to 167°F (-40°C to 75°C)	-40°F to 167°F (-40°C to 75°C)
Storage Temperature	-40°F to 185°F (-40°C to 85°C)	-40°F to 185°F (-40°C to 85°C)	-40°F to 185°F (-40°C to 85°C)
Operating Humidity	5 to 95% RH (non-condensing)	5 to 95% RH (non-condensing)	5 to 95% RH (non-condensing)
Storage Humidity	5 to 95% RH (non-condensing)	5 to 95% RH (non-condensing)	5 to 95% RH (non-condensing)
Operating Altitude	6500 ft. (2000 m)	6500 ft. (2000 m)	6500 ft. (2000 m)
Regulatory Approvals			
EMI/EMC	FCC Part 15 EN 55011 EN 55032 EN 55024	FCC Part 15 EN 55011 EN 61000-6-4 EN IEC 61000-6-2 EN 55032 EN 55024	FCC Part 15 EN 55011 EN 61000-6-4 EN 61000-6-2 EN 55032 EN 55024

ATTENTION: If the switch is used in a manner not specified here, the protection provided by the switch may be impaired.

Warranty and Product Registration

3-Year Limited Warranty

Seller warrants this product, if used in accordance with all applicable instructions, to be free from original defects in material and workmanship for a period of three (3) years from the date of initial purchase. If the product should prove defective in material or workmanship within that period, Seller will repair or replace the product, at its sole discretion.

THIS WARRANTY DOES NOT APPLY TO NORMAL WEAR OR TO DAMAGE RESULTING FROM ACCIDENT, MISUSE, ABUSE OR NEGLECT. SELLER MAKES NO EXPRESS WARRANTIES OTHER THAN THE WARRANTY EXPRESSLY SET FORTH HEREIN. EXCEPT TO THE EXTENT PROHIBITED BY APPLICABLE LAW, ALL IMPLIED WARRANTIES, INCLUDING ALL WARRANTIES OF MERCHANTABILITY OR FITNESS, ARE LIMITED IN DURATION TO THE WARRANTY PERIOD SET FORTH ABOVE; AND THIS WARRANTY EXPRESSLY EXCLUDES ALL INCIDENTAL AND CONSEQUENTIAL DAMAGES. (Some states do not allow limitations on how long an implied warranty lasts, and some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitations or exclusions may not apply to you. This warranty gives you specific legal rights, and you may have other rights which vary from jurisdiction to jurisdiction.)

WARNING: The individual user should take care to determine prior to use whether this device is suitable, adequate or safe for the use intended. Since individual applications are subject to great variation, the manufacturer makes no representation or warranty as to the suitability or fitness of these devices for any specific application.

Product Registration

Visit tripplite.com/warranty today to register your new Tripp Lite product. You'll be automatically entered into a drawing for a chance to win a FREE Tripp Lite product!*

*No purchase necessary. Void where prohibited. Some restrictions apply. See website for details.

WEEE Compliance Information for Tripp Lite Customers and Recyclers (European Union)

Under the Waste Electrical and Electronic Equipment (WEEE) Directive and implementing regulations, when customers buy new electrical and electronic equipment from Tripp Lite, they are entitled to:

- Send old equipment for recycling on a one-for-one, like-for-like basis (this varies depending on the country)
- Send the new equipment back for recycling when this ultimately becomes waste

Warranty and Product Registration

FCC Notice, Class B

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Any changes or modifications to this equipment not expressly approved by Tripp Lite could void the user's authority to operate this equipment.

Use of this equipment in life support applications where failure of this equipment can reasonably be expected to cause the failure of the life support equipment or to significantly affect its safety or effectiveness is not recommended.

Tripp Lite has a policy of continuous improvement. Specifications are subject to change without notice. Photos and illustrations may differ slightly from actual products.

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